

# Notice of Allowability

Application No.

09/931,162

Examiner

Jonas N. Strickland

Applicant(s)

MUSSMANN ET AL.

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the after-final amendment filed on 10/19/04.
2. ☒ The allowed claim(s) is/are claims 19-25.
3. ☒ The drawings filed on 17 August 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

***Allowable Subject Matter***

1. Claims 19-25 are allowed.
2. The following is an examiner's statement of reasons for allowance: The instantly claimed invention is allowable over the cited prior, because the cited prior art fails to disclose an oxygen storage material comprising cerium oxide with at least one other oxide of a component selected from the group consisting of silicon and zirconium, wherein the cerium oxide and the other said oxide are present in the form of a mixed oxide, comprising preparing a hydroxidic precursor of a mixed oxide of cerium and at least one of silicon or zirconium by a wet-chemical process, drying the precursors at a temperature from 80°C to 300°C with the formation of an oxide/hydroxide/carbonate dried mixture, treating the dried mixture under a hydrogen-containing atmosphere at a temperature from 600°C to 900°C for a period of 1 to 10 hours. The instant application also claims wherein the oxygen storage material has a loss on ignition of more than 6 wt% and a specific surface area of more than 140 m<sup>2</sup>/g, which is not taught by the prior art.

Suda et al. discloses a catalyst for purifying exhaust gases having excellent purifying performance by employing a particle comprising ceria and zirconia which has large oxygen storage capacity and high adsorption and discharge speed (see abstract). Suda et al. continues to disclose wherein the oxygen storage capacity is prepared using a wet-chemical route, drying the precipitate at a temperature not less than 100°C. The element as oxide is precipitated as hydroxide or oxide (p. 6, lines 52-56). Suda et al. also teaches wherein the dried mixture may be further heated in a hydrogen-containing

atmosphere at a temperature from 800-1300°C (p. 8, lines 25-57). Suda et al. continues to disclose wherein the mixed oxides may be heated in a range of 350-1200°C for 5 hours (p. 11, lines 45-48). Suda et al. continues to teach wherein the specific surface area is not less than 50 m<sup>2</sup>/g, which reads on being at least 140 m<sup>2</sup>/g (p. 6, lines 20-27). Suda et al. also teaches wherein the support base can be honeycomb-shaped, on which a noble metal is loaded, such as platinum (p. 9, lines 8-20). Suda et al. also teaches a weight ratio between Ce and Zr between 75/25 to 25/75 (p. 15, lines 45-49). Suda et al. fails to disclose the formation of an oxide/hydroxide/carbonate dried mixture.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


### ***Conclusion***


3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N. Strickland whose telephone number is 571-272-1359. The examiner can normally be reached on M-TH, 7:30-5:00, off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jonas N. Strickland  
October 29, 2004

  
STANLEY S. SILVERMAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700